

## AGENDA March 15, 2019

- Welcome / Team Introductions Patrick Granson

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- Energy Compliance Eurilynn Caraballo
- Q&A MCCE Team

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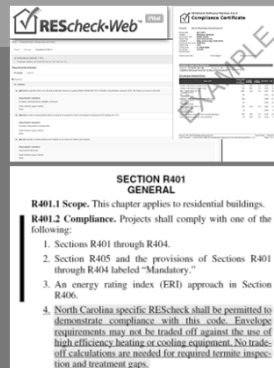
- Story-Attic Eurilynn Caraballo
- Q&A MCEE Team

## Energy Compliance

### NCRC 2018

### Significant changes on the energy code.

- REScheck was permitted in the code, but it's no longer available on DOE's website to be used with the NCECC.
- RESchecks complying with the 2015 IECC, will be accepted as an alternate.
- There are five new methods available for energy compliance.



### NEW! Compliance Alternatives in the 2018 NCRC / NCECC.

#### Prescriptive :

1. R-Value Computation
2. U-Value Alternative
3. Total UA Alternative

#### Simulated Performance

#### Energy Rating Index





## RI checklists

The preferred location to post the Checklist is by the window closest to the primary point of access.

- **Home Energy Rating.** A home **energy rating** is an analysis of a home's **energy efficiency**; as per the **Home Energy Rating System(HERS) Index**.

- The max. score for our zone is 65.



## NCDOT's Checklist: Thermal Envelope

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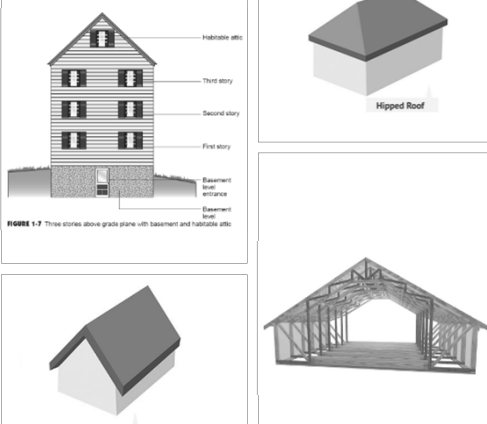
## Q&A: Energy Compliance

- Because we cannot approve batch samples, we recommend submitting Master Plans with the prescriptive method.
- If any other method is to be used, the required documentation must be submitted at the time of the permit application. This should be noted on the “remarks” section of the application (per individual building).

This master plan complies with the prescriptive energy requirements of the NCRC 2018. The permit applicant may submit an alternative compliance method at the time of permit submittal for each building. The new proposed method shall be indicated on the permit application.

# Story-Attic

NCRC 2018



## Habitable Attic per IRC

- The "habitable attic" was added in the 2009 IRC in an attempt to gain bonus space above the 3d floor while remaining in the IRC.
  - No exterior walls allowed other than gable ends.
  - No maximum area.

## Story-Attic per NCRC

**STORY, ATTIC.** Any story situated wholly or partly in the roof, so designated, arranged or built as to be used for storage or habitation. If an attic that is accessible by a fixed stairway has a 7-foot clear height for greater than 50 percent of the floor area of the story below, then the space shall be considered as a story.

- NCRC created a new definition to address habitable attics.
- This new definition allows some exterior walls, with the tradeoff that the space can't be larger than 50% of the story below.

## Story-Attic per NCDOI



- The intent of the definition is to add an attic while conforming to the structural limitations of the building code.
- The intent of defining it as "wholly or partly in the roof" was to allow limited exterior walls such as dormer walls to provide emergency egress.

**Building Consistency Meeting**  
Resolutions

Date 10-01-2014 Recorder and minutes prepared by Jay E. Gohs-Lua-McDevina

B. Can one build a 3 story home (single, two-family, townhome), plus associated working deck or story tower access, full engineered design, using the Residential Code 2012 Base law?

- Yes. Check habitable rooms are not considered a story.

C. Does the habitable attic floor "count" or "not count" as a floor in regards to the IRC R602.10.3(2) Table which notes maximum two floors and a roof (pitched deck floor would also create this added "floor" condition)?

- The habitable attic in itself does not affect how to use Table R602.10.3.2(1) for example, but if you have significant exposed exterior wall area at the attic level the table will not be adequate to address lateral forces if the attic is above the 3<sup>rd</sup> floor.

D. Is a habitable attic to be fully in the roof line, with the exception of a dormer for egress opening, could one have a full wall accessing a rooftop deck and meet wind loads?

- Concerning an attic as completely within the space between the top story ceiling joists and the full rafters. The definition appears to indicate that an attic cannot nor have exterior walls other than those required for dormers for required windows.

- A full wall is OK as long as the floor area is 50% or less than the floor below as stated in the defn for "Attic Story" in Section R602 and the mean roof height remains within the parameters of the IRC or is engineered. Anything over 5-stories must comply with the 2012 IBC/CBC.

## Story-Attic MCCE Interpretation

- In 2014 we expanded NCDOT's interpretation and started allowing up to a full exterior wall with some conditions.

**MECKLENBURG COUNTY**  
Land Use and Environmental Services Agency - Code Enforcement

**Code Interpretation**

SUBJECT: Story / Attic Definition  
 TRADE: Residential Building  
 CODE REFERENCES: R301 - 2018 NC Residential Code  
 NUMBER: R302.10-3(2)

CODE:

**STORY-ATTIC:** Attic area enclosed wholly or partly in the roof, or otherwise supported as built up to be used for storage or for other use, but not available for other occupancy than for storage. Attic shall be measured to the 7ft. ceiling line in the story below. Area the attic shall be considered as a story.

**INTERPRETATION:**

The NCBC's basic buildings to three stories. The intent of the Story / Attic Definition is to limit the height and number of stories of residential buildings because of the residential code's structural design limitations.

Per MCCE's interpretation:

1. Code intent required for gable or hip roofs over the attic definition. Other roof profiles will be considered stories.
2. The Story / Attic Definition limits the occupiable floor area to 50% of the floor area of the story below. Unfinished roof decks will not be considered part of the floor area below.

## Story-Attic MCCE Interpretation

- Due to a recent high-volume of questions from customers about this topic, we've issued an official interpretation of this issue in November 2018.

## Story-Attic MCCE Interpretation Update

The interpretation released in Nov. 2018 did not address area calculation. Hence, we are updating it to provide further clarification.

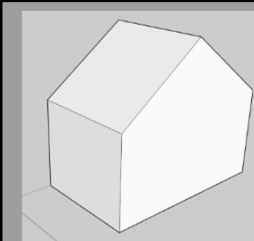
1. The Story-Attic will be limited in size to 50% of the floor area below. The attic area shall be measured to the 7ft. ceiling line.
2. Only attics enclosed by gable or hip roofs meet the code's intent. Other roof profiles will be considered stories.
3. The occupiable area of the story-attic shall be centrally loaded in the span of the joist below.



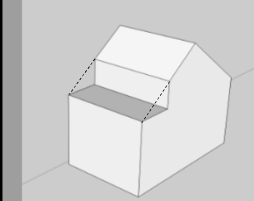
4. Dormers, window wells and mechanical wells are allowed, provided they are limited in size to comply with egress opening requirements and/or the required mechanical clearances.



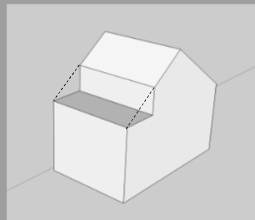
5. Unenclosed roof terraces are not considered stories per code. A stair landing is allowed for access but limited to 25sf.



6. Buildings with rooftop terraces on the same level of the attic can be allowed to have up to one exterior wall, on one side of the building.

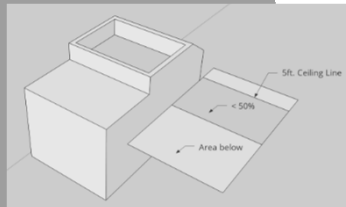


The following conditions must be met as a tradeoff:



1. The terrace is confined within the projected roof line.

2. The 50% area limit will be measured to the 5ft. ceiling line (R305).



3. No dormers or wells will be allowed on the other three sides of the building.

4. Plans will include a diagram, showing compliance with all applicable items above.



### Main Differences between NCRC & NCBC?

- 13R Sprinkler system required on living areas. (4 story / Type V Construction).
- 13D Sprinkler system required on living areas. (4 story / Other types of Construction ).
- 2hr Fire Walls required.
- Type B units required.
  - Parallel approach at sinks and bathroom vanities and removable base cabinets.
  - Blocking for future grab bars.
  - Door width
- Increased energy requirements.

Q&A:  
Story-Attic

## AGENDA July 3<sup>rd</sup>, 2019

### WELCOME:

- Announcements & Updates Eurilynn Caraballo

### UPDATES:

- Mechanical / Plumbing Tommy Rowland
- Electrical David Rains
- Residential Building Eurilynn Caraballo

## MCEE Announcements 2019

New Manager!



**Scott Westbrook:**  
Commercial and Residential  
Technical Assistance Center  
(CTAC & RTAC)

New Manager!



**Clay Goodman:**  
Residential Multi-Trade



New Supervisor!

**Jimmy Kluttz:**  
Residential Multi-Trade

Congratulations!



**Jeff Griffin:**  
President, NC Building  
Inspectors Association (NCBIA)

Congratulations!



**Tommy Rowland:**  
President, NC Plumbing  
Inspectors Association (NCPIA)

New Website!

We are in the process of reorganizing and updating our website to reflect the new code and new legislation.

Phase 1 Re-organize (Complete)

Phase 2 Update content (In progress)

GOVERNMENT
 RESIDENTS
 BUSINESSES
 VISITORS

# New Website!

Mecklenburg County, NC > LUSA > Code Enforcement

- About Us
- Building Development Commission
- Permitting
- Plan Review
- Inspections
- Public Records
- County Fire Marshal
- Revenue Collections
- Customer Tools & Forms
- Code Information & Appeals
- Contact Us

## Mecklenburg County Code Enforcement

ARCHITECTS & ENGINEERS
 CONTRACTORS

HOMEOWNERS
 OWNERS & DEVELOPERS

CUSTOMER LOGIN

**Mecklenburg County Code Enforcement**

Code Enforcement's Customer Service Center

Call Us. We're All Answers. 980-314-CODE (2633)

**SUBSCRIBE TO CODE ENFORCEMENT E-MAIL ALERTS**

Provide feedback. Submit an appeal. Share a concern.

**We're here to help.**

**Address**  
 Mailing Address:  
 Mecklenburg County Code Enforcement  
 2145 Suttle Avenue  
 Charlotte, NC 28208

**Office Location:**  
 2145 Suttle Avenue  
 Charlotte, NC 28208  
 MAP  
 Hours: Mon-Fri 8 a.m. - 5 p.m.

**Contact**  
 Customer Service  
 980-314-4000 (ext. 3)

LATEST NEWS

UPCOMING EVENTS

# New Pages!

## Residential Code Administration

### Training Calendar

View our calendar of residential Code Academy training opportunities at the link below:

[Residential Calendar 2019](#)

### Code Interpretations

Browse Mecklenburg County Residential Building Code Interpretations below. To search, open the PDF and click Ctrl+F.

- [Residential Building Code Interpretations – 2018 \(NCRC\)](#)
- [Residential Building Code Interpretations – 1998-2012 \(NCRC\)](#)

### Submit a Topic for Consistency Review

To submit a topic for consistency, please contact Associate Building Code Administrator [Eurihryn Caraballo Luccioni](#).

### Minutes from Past Meetings

Browse Mecklenburg County Residential Building Code Academy training meetings (formerly called consistency meetings) below. To search, open the PDF and click Ctrl+F.


- [Residential Training 2019, Vol. 1](#)
- [Residential Training 2019, Vol. 2](#)
- [Residential Consistency Meeting Minutes – 2012-2018](#)

### Code Administrator

**Eurihryn Caraballo Luccioni, AIA**  
Associate Residential Building Code Administrator  
**E-mail**

# New Documents!

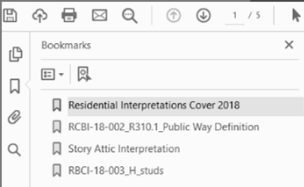
2018  
Interpretations  
(Total 3)



RESIDENTIAL  
BUILDING CODE  
CLARIFICATIONS  
AND  
INTERPRETATIONS

NCRC 2018

1st Edition, April 1, 2018



Bookmarks

- Residential Interpretations Cover 2018
- RCBI-18-002\_R310.1\_Public Way Definition
- Story Attic Interpretation
- RBCI-18-003\_H\_studs

# New Documents!

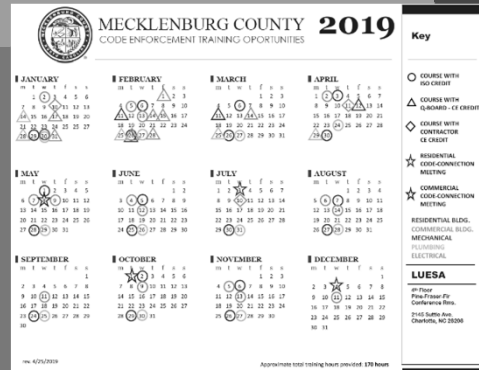
## Past Code Interpretations (Total 41)

For Reference. They have been incorporated in code, or are duplicates from DOI.



## New Documents!

### MCCE Training Calendar (Training is open to the public)



## New Documents!

### Residential Calendar (Training is open to the public)

MCCE 2019 Calendar:		Residential Building Training
800 - 610-0100 - 2020 Lenoir Ave. Charlotte, NC		Last Revised: 4/26/2019
DATE	TOPIC	DESCRIPTION
12/4/2018	CODE CONNECTION	Bi-Annual meeting with home builders and the MCCE Team to give updates, discuss code changes, interpretations or any other issues.
1/6/2019	CODE ADMINISTRATION	Code Administration, Plan Review, and Inspections, basic concepts.
1/6/2019	STRUCTURAL DESIGN	Climate and geographical design criteria, prescriptive and performance design, basic loads, wind, snow, seismic and flood loads.
	SITE DEVELOPMENT	Site development, location on property, fire separation distance, site and fill, site preparation, footings, foundations, repair inspections and storm drainage.
1/3/2019	FRAMING AND BRACING	Grade marks, engineered wood products, trusses, wood treatment, cutting, nailing and matching, trussing and sheathing, floors, decks, walls, ceiling and roof framing and bracing. Lateral bracing methods.
1/1/2019	FIRE SAFETY	Residential sprinklers, smoke alarms, fire resistance, dwelling separation, floor fire protection, foam plastic, chimneys and fireplaces.
1/5/2019	HOME SAFETY	Room areas, ceiling heights, fall protection, safety glass, means of egress, emergency escape and rescue openings.
7/3/2019	CODE CONNECTION	Bi-Annual meeting with home builders and the MCCE Team to give updates, discuss code changes, interpretations or any other issues.
1/7/2019	ENERGY (10-12 AM) CE Crash-Building Ryan Miller, NCEPA	2018 MCCE residential changes including: energy foam insulation, existing buildings and EB, in-depth discussion on EB, best practices, code enforcement and documentation.
	DECKS (9-10 AM) CE crash-Building Paul Cook, AISC	Construction requirements and documentation. Common deck failures, fasteners, hanger hardware, ledger connections, guard rail and post connections, balusters, balcons, columns, stairways, and pressure treated wood concerns, AISC-CCA.
10/2/2019	FINISHES	Interior finishes, exterior wall coverings, roof coverings, weather protection and masonry design.
	MIF BASICS	Plumbing mechanical, electrical basics concepts.
11/6/2019	ACCESSIBILITY	Accessibility is not addressed in the residential code, but there are a few instances where it may come into play, such as when providing elevator, model homes, home-daycares, MC parking, etc. These will be clarified.
	OTHER BUILDINGS	Overview of child and adult care facilities, permanent modular, tiny homes, manufactured housing, container units and plans and

## New Training Files!

### HOME SAFETY

By Eurlynn Caraballo Luccioni, AIA



### RESIDENTIAL CONSISTENCY MEETING MINUTES

2012-2018  
Mecklenburg County Code Enforcement

Training files (Vol. 1 & Vol. 2)

Past Res. Building Consistency Minutes

## Appeal Process

NCRC 2018



## Appeals related to reinspection fee charges

1. Must be submitted within 10 working days of the inspection date.
2. An appeal decision will be made within 10 working days of receiving the written appeal.

The image shows a 'FORMAL APPEAL FORM' from Mecklenburg County, Land Use and Environmental Services Agency, Code Enforcement. The form is titled 'FORMAL APPEAL FORM (For Failed Inspections or Plan Review)'. It includes fields for 'Your name', 'Company name', 'Business Address', 'Phone #', 'Fax #', 'E-mail', 'Project Name', 'Project Address', 'Date of Inspection', and 'Code References (if applicable)'. There is a large box for 'Appeal Issue:'. On the right side, there are sections for 'Manager/Supervisors Decision:', 'Code Administrator/Directors Decision:', and 'Division Director Decision:'. At the bottom, there are signature lines for 'Manager/Supervisor signature:', 'Code Administrator/Director's signature:', and 'Division Director Signature', each with a 'Date' field. A note states: '(1st stage) Appeals within the Division are first made to the Manager over the inspection or plan review and must be made within 10 days of the failure or review decision. (2nd stage) Appeals must be made to the Code Administrator/Technical or Inspection/Division Director if non-technical issue. (3rd stage) Appeals to the Division Director. All technical appeals beyond the Department's Division Director must be made to the NC Department of Insurance.' The footer includes the slogan 'PEOPLE • PRIDE • PROGRESS • PARTNERSHIP' and contact information: 'Email to Code Enforcement@MecklenburgCountyNC.gov or fax to 888-861-8620'.

## Legislative Updates

2019

## Legislative Updates

**SB 355- Land Use  
Regulatory laws of  
the State (Developer  
choose what rule to  
use)**



## Legislative Updates

### **HB 873 - The Timing of Collection of System Development fees**



## Legislative Updates

### **HB 858 – Interior Design Profession Act**



## Legislative Updates

### **SB 316 – Affordable Housing**



## Legislative Updates

### **HB 730 – Trash Collection / Multifamily Residential**



## Legislative Updates

### **HB 448 / S422 - Planning Development Changes**



## Legislative Updates

### **HB 410 - Required Generators / Nursing & Adult Care Homes**



## Legislative Updates

### **SB 571 – Local Governments / Unsafe Buildings**



## Legislative Updates

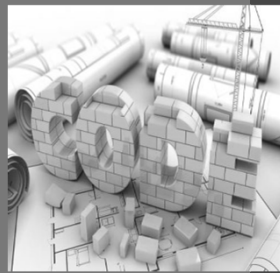
### **HB 549 – Matching Funds for Affordable Housing**



**MATCHING  
FUNDING**

## Legislative Updates

### HB 948 - Statutes Governing Building Codes.



## Legislative Updates

### HB675- Make various changes and clarifications regarding the creation and Enforcement of the Building Code



### HB675

Requires the BCC to:

- *Create a form for inspection certifications by licensed engineers and licensed architects.*
- *Conduct a cost-benefit analysis for all proposed changes to the NC Energy Conservation Code.*
- *Consult with the Department of Environmental Quality to study options for on-site disposal of demolition debris.*

### HB675

- *Requires the NC Code Officials Qualification Board to establish a standard certificate for a **residential changeout inspector**.*
- Gives examples of a building "component."

- Licensed engineers and licensed architects inspecting building components or elements to submit any information other than that required on the inspection certification form.
- Residential building plans submitted by licensed engineers and licensed architects to be under seal unless required by the NC State Building Code.
- Developers to bury existing above ground power lines.
- A minimum square footage for residential structures.


- Complete initial residential plan reviews within 15 business days.
- Issue TCOs in certain circumstances.
- Make it a Class 2 misdemeanor to falsely claim or suggest that a person, firm, or corporation is a licensed general contractor.

- Temporary motion picture, television, and theater stage sets and scenery are exempt from the NCBC permit requirement.
- Authorizes a property owner to install any backflow preventer that complies with the NCPC when separate meters are required for in-ground irrigation systems.
- Extend to October 1, 2021, the requirement to report to DOI, any residential framing inspection resulting in 15 or more violations.
- Require DOI to issue a guidance paper by October 1, 2019, on the review of residential building plans.

[illegible]

# Mechanical and Plumbing Updates

Tommy Rowland – M&P Code Administrator



Important 2018  
Mechanical and  
Plumbing Changes  
in the Residential  
Code

## 2018 Residential Mechanical Code

***New!***

**M1502.4.4 (504.8.4.3) Dryer exhaust duct power ventilators.** Domestic dryer exhaust duct power ventilators shall conform to UL 705 for use in dryer exhaust duct systems. The dryer exhaust duct power ventilator shall be installed in accordance with the manufacturer's instructions.



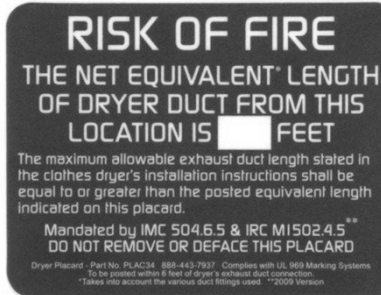
**M1502.4.6 Length identification.** Where the exhaust duct equivalent length exceeds 35 feet (10 668 mm), the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet (1829 mm) of the exhaust duct connection.

1. Labels shall be permanently stenciled, laminated, or commercially available plastic or metal tags.

2. Labels shall state, at a minimum (fill in the blank):

**Caution:** Equivalent length \_\_\_\_\_ ft. Any installed dryer must be equipped with an exhaust system that meets or exceeds this equivalent length requirement.

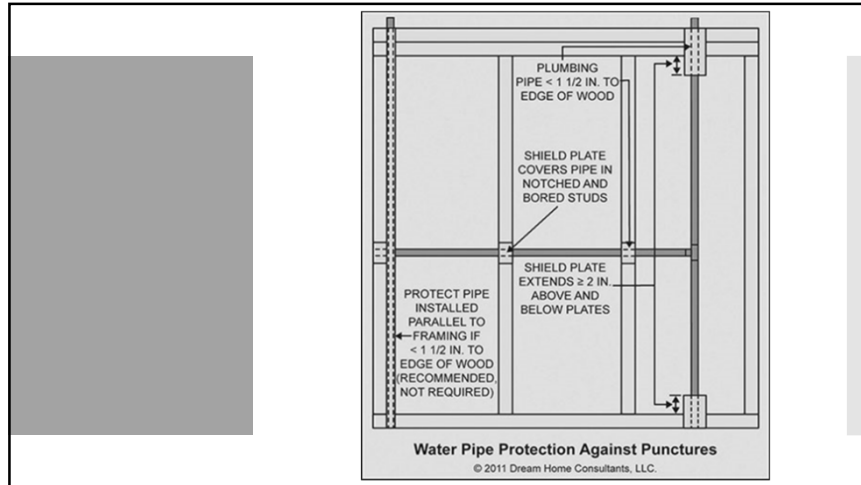
3. Labels can be attached to wall or vent receptor.



**New!**

**G2415.7.2 (404.7.2) Piping installed in other locations.**

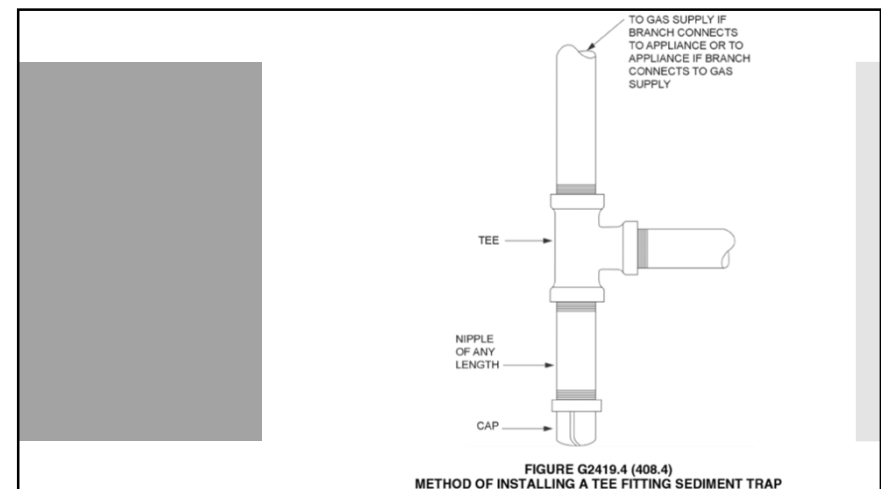
Where the *piping* is located within a framing member (*i.e.* steel studs) and is less than 1½ inches (38 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the *piping* shall be protected by shield plates that cover the width and length of the *piping*. Where the *piping* is located outside of a framing member and is located less than 1½ inches (38 mm) from the nearest edge of the face of the framing member to which the membrane will be attached, the *piping* shall be protected by shield plates that cover the width and length of the *piping*.



# New!

**G2415.12.2 (404.12.2) Alternate to burial depth.** Metal piping shall be provided with a protective conduit of wrought iron, plastic pipe, or steel pipe, and topped with a 3-inch (76 mm) thick by 6-inch (152 mm) wide concrete barrier. See Section G2415.17 for plastic gas pipe requirements and limitations.

**G2419.4 (408.4) Sediment trap.** Where a sediment trap is not incorporated as part of the appliance, a sediment trap shall be installed downstream of the appliance shutoff valve as close to the inlet of the appliance as practical. The sediment trap shall be either a tee fitting having a capped nipple of any length installed vertically in the bottommost opening of the tee as illustrated in Figure G2419.4 or other device approved as an effective sediment trap. Illuminating appliances, ranges, clothes dryers, log lighters, gas logs, decorative vented appliances for installation in vented fireplaces, gas fireplaces and outdoor grills need not be so equipped. The sediment trap required by a MP regulator can act as the Section G2419.4 required sediment trap (see Section G2421.2 Item 5), if it is located within 6 feet (nominal) of the appliance.





**N1103.10.3 (R403.10.3) Covers.** Outdoor heated pools and outdoor permanent spas shall be provided with a Class 1 vapor-retardant cover.

**Exception:** Pools deriving over 70 percent of the energy from heating from a site-recovered energy or solar energy source.

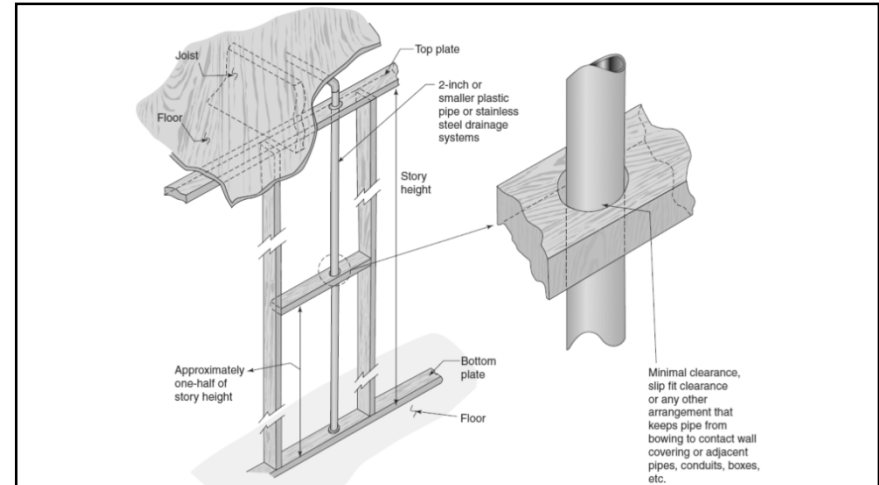
## 2018 Residential Plumbing Code

TABLE P2605.1  
PIPING SUPPORT

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING (feet)
ABS pipe	4	10 <sup>b</sup>
Aluminum tubing	10	15
Cast-iron pipe	5 <sup>a</sup>	15
Copper or copper alloy pipe	12	10
Copper or copper alloy tubing (1 1/4 inches in diameter and smaller)	6	10
Copper or copper alloy tubing (1 1/2 inches in diameter and larger)	10	10
Cross-linked polyethylene (PEX) pipe, 1 inch and smaller	2.67 (32 inches)	10 <sup>b</sup>
Cross-linked polyethylene (PEX) pipe, 1 1/4 inch and larger	4	10 <sup>b</sup>
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	2.67 (32 inches)	4 <sup>b</sup>
CPVC pipe or tubing (1 inch in diameter and smaller)	3	10 <sup>b</sup>
CPVC pipe or tubing (1 1/4 inches in diameter and larger)	4	10 <sup>b</sup>
Lead pipe	Continuous	4
PB pipe or tubing	2.67 (32 inches)	4
Polyethylene of raised temperature (PE-RT) pipe, 1 inch and smaller	2.67 (32 inches)	10 <sup>b</sup>
Polyethylene of raised temperature (PE-RT) pipe, 1 1/4 inch and larger	4	10 <sup>b</sup>
Polypropylene (PP) pipe or tubing (1 inch and smaller)	2.67 (32 inches)	10 <sup>b</sup>
Polypropylene (PP) pipe or tubing (1 1/4 inches and larger)	4	10 <sup>b</sup>
PVC pipe	4	10 <sup>b</sup>
Stainless steel drainage systems	10	10 <sup>b</sup>
Steel pipe	12	15

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- a. The maximum horizontal spacing of cast-iron pipe hangers shall be increased to 10 feet where 10-foot lengths of pipe are installed.
- b. For sizes 2 inches and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe.



## SECTION P2713 BATHTUBS

**P2713.1 Bathtub waste outlets and overflows.** Bathtubs shall be equipped with a waste outlet and an overflow outlet. The outlets shall be connected to waste tubing or piping not less than 1½ inches (38 mm) in diameter. The waste outlet shall be equipped with a water-tight stopper.





**P2804.6.1 Requirements for discharge pipe.** The discharge piping serving a pressure-relief valve, temperature-relief valve or combination valve shall:

1. Not be directly connected to the drainage system.
2. Discharge in the same room as the water heater either on the floor, into an indirect waste receptor or into a water heater pan.
  - a. Discharge through an air gap or air gap fitting to a remote termination point that is observable by the building occupants.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

5. Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Deleted.
8. Not be trapped.
9. Be installed to flow by gravity.
10. Terminate not more than 6 inches (152 mm) and not less than two times the discharge pipe diameter above the floor or waste receptor flood level rim.
11. Not have a threaded connection at the end of the piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials indicated in Section P2906.5 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.

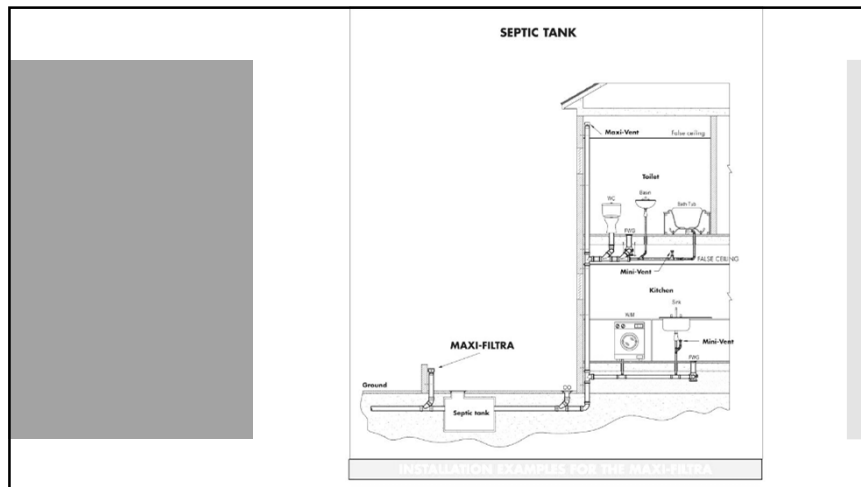
14. The discharge pipe shall be clamped or otherwise supported with not less than one clamp or support within 12 inches (305 mm) of the point of discharge.



# New!

**P3102.4 (904.3) Stack vent termination.** Stack vents shall terminate outdoors to the open air or to a stack-type air admittance valve in accordance with Section P3114.

**P3114.3 (918.3) Where permitted.** Individual vents, branch vents, circuit vents and stack vents shall be permitted to terminate with a connection to an *air admittance valve*. Individual and branch type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain.



# Thank you Questions?

Tommy Rowland  
Mechanical/Plumbing Code Administrator  
Tommy.Rowland@Mecklenburgcountync.gov

## Electrical Updates

David Rains – Electrical Code Administrator

### ELECTRICAL DISCUSSION WITH RESIDENTIAL HOME BUILDERS

#### DISCUSSION ITEMS

Inspection Results and  
Permanent Records

Temporary Retail Power

Grounding Electrode System  
Ufer Grounding Electrodes

LV and Other Additional  
Permits

Access to Structure Interiors  
and Attics

[illegible]

At this first screen enter the electrical permit application will be attached to.

**Code Enforcement** Welcome: WEPMTUT11.1.1.1

Application | Online Permits | New Permits | Links | Account Info | Sign In | Sign Out | Change Password

### Temporary Utility Application

Form ID:

[Go to Next](#) [Search](#) [Cancel](#)

**Complete all the questions found in the application form and provide a specific list of areas, circuits or systems that applicant is requesting TC on.**

**Code Enforcement** Welcome: WEPMTUT11.1.1.1

Application | Online Permits | New Permits | Links | Account Info | Sign In | Sign Out

### Application for Temporary Power

This application is for the temporary use of service utilities. For the purpose of the completion of construction for building pursuant to the following codes: 145-145.5, 145A-145.10; NEC, 110.8 and the NE Administrative Code and Rules version 2016.8, 2016.9.

Form ID: (Note: an inspection request is not required by the appropriate contractor for inspection and approval)

Contractor ID:

Contractor:

SITE ADDRESS:

#### Applicant & Site Information

All contact information listed below is required to process application

Applicant Name:

Email:

Use email address in required for the inspector. Payment must be paid on site for the inspection. It is mandatory to respond please contact Administrative Support at 704-230-2820

Phone Number: (  )

#### Potential or Systems/Service/Equipment to be connected

Please list specific portions and areas to be connected. Failure to list all specific areas requested or an inspection failure to pass off an area or system will result in the applicant having to submit another application with an additional inspection request. Inspection cannot approve more than what is being requested and service, systems, equipment or fixtures must all meet the NEC technical codes.

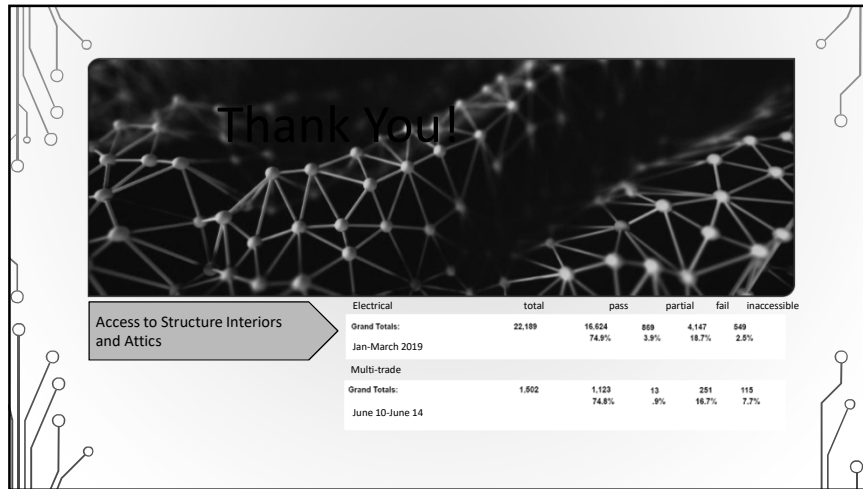
Describe electrical systems, mechanical systems or plumbing systems for which application is made to facilitate construction only.

Consent above does not constitute approval of all systems and services. Inspection results will indicate if approved as requested above, or modified with lesser approval than requested. Inspector cannot approve more systems or services than requested. PLEASE ADVISE YOUR INSPECTION RESULTS AND SITE INFORMATION TO ANY LIMITATIONS ORIGIN. For additional systems or services another application must be submitted. See TO instructions under publications on the link below.

[www.misadmitt.com](http://www.misadmitt.com)







## Residential Building Updates

Eurilynn Caraballo - AIA

Assoc. Res. Code Administrator

### D items – Building Code Council

D Items = Adoption of amendments by the Council prior to approval by the Rules Review Commission.



**New!**

### D items – Building Code Council

N1101.1 Scope. Exception:

1. In accordance with N.C.G.S. 143-138 (b19), no energy conservation code provisions shall apply to detached and attached garages located on the same lot as a dwelling.



**New!**

## D items – Building Code Council

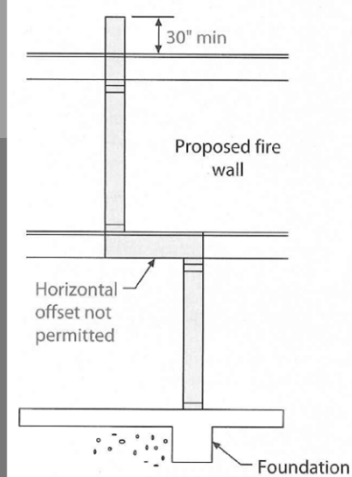
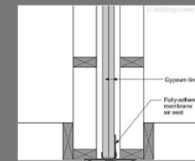
### H101.2 Signs exempt from permit:

Ground signs less than 6 feet in height above finished grade are exempt from the requirements to obtain a *permit* before erection.

**New!**

## Continuity R302.2.1

**R302.2.1 Continuity.** The fire-resistance-rated wall or assembly separating *townhouses* shall be continuous from the foundation to the underside of the roof sheathing, deck or slab, or exterior wall sheathing. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached accessory structures.

**New!**

## Opening protection.

R302.5.1

**R302.5 Dwelling-garage opening and penetration protection.** Openings and penetrations through the walls or ceilings separating the *dwelling* from the garage shall be in accordance with Sections R302.5.1 through R302.5.3.

**R302.5.1 Opening protection.** Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than  $1\frac{3}{8}$  inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than  $1\frac{3}{8}$  inches (35 mm) thick, or 20-minute fire-rated doors.

**Exception:** A disappearing/pull-down stairway to uninhabited attic space with minimum  $\frac{3}{8}$ -inch (9.53 mm) (nominal) fire-retardant-treated structural panel is equivalent to the separation requirement from attics in Table R302.6.

**New!**

## Table R302.6

**TABLE R302.6**  
**DWELLING-GARAGE SEPARATION<sup>a</sup>**

SEPARATION	MATERIAL
From the residence and attics	Not less than $\frac{1}{2}$ -inch gypsum board or equivalent applied to the garage side
From habitable rooms above the garage <sup>a</sup>	Not less than $\frac{5}{8}$ -inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than $\frac{1}{2}$ -inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than $\frac{1}{2}$ -inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. For dwelling units constructed prior to the 2012 *North Carolina Residential Code* edition,  $\frac{1}{2}$  inch or greater existing gypsum board on the bottom side of the garage ceiling shall be acceptable. Joints shall be taped.

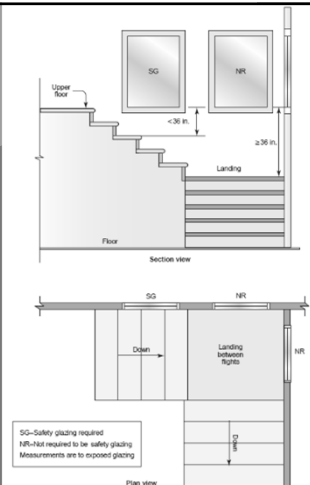
**New!**

## Glazing at stairs R308

**R308.4.6 Glazing adjacent to stairs and ramps.** Glazing where the bottom exposed edge of the glazing is less than 36 inches (914 mm) above the plane of the adjacent walking surface of stairways, landings between flights of stairs and ramps shall be considered to be a hazardous location.

### Exceptions:

1. Where a rail is installed on the accessible side(s) of the glazing 34 to 38 inches (864 to 965 mm) above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot (730 N/m) without contacting the glass and have a cross-sectional height of not less than 1½ inches (38 mm).
2. Glazing 36 inches (914 mm) or more measured horizontally from the walking surface.
3. Where a change in elevation is 8¼ inches (210 mm) or less at an exterior door.

**New!**

## Glazing at bottom landings R308

### R308.4.7 Glazing adjacent to the bottom stair landing.

Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches (914 mm) above the landing and within a 60-inch (1524 mm) horizontal arc less than 180 degrees from the bottom tread nosing shall be considered to be a hazardous location.

**Exception:** The glazing is protected by a *guard* complying with Section R312 and the plane of the glass is more than 18 inches (457 mm) from the *guard*.

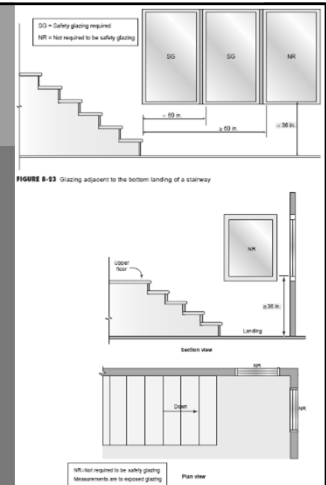


FIGURE R-33 Glazing adjacent to the bottom landing of a stairway

FIGURE R-33 Glazing adjacent to the bottom landing of a stairway

**New!**

## Emergency escape and rescue: replacement windows R310.2.5

### SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

**R310.2.5 Replacement windows.** Replacement windows installed in buildings meeting the scope of this code shall be exempt from the maximum sill height requirements of Sections R310.1 and Sections R310.2.1 and R310.2.2, provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement window is not part of a change of occupancy.

**New!**

## Emergency escape and rescue doors R310.2.5

**R310.3 Emergency escape and rescue doors.** Where a door is provided as the required emergency escape and rescue opening, it shall be permitted to be a side-hinged door or a slider. Where the opening is below the adjacent ground elevation, it shall be provided with a bulkhead enclosure.

**R310.3.1 Minimum door opening size.** The minimum net clear height opening for any door that serves as an emergency and escape rescue opening shall be in accordance with Section R310.2.1.


**R310.3.2 Bulkhead enclosures.** Bulkhead enclosures shall provide direct access from the *basement*. The bulkhead enclosure shall provide the minimum net clear opening equal to the door in the fully open position.

**R310.3.2.1 Drainage.** Deleted.



**New!**

## CO Alarms R315



**SECTION R315  
CARBON MONOXIDE ALARMS**

**R315.1 General.** Carbon monoxide alarms shall comply with Section R315.

**R315.1.1 Listings.** Carbon monoxide alarms shall be *listed* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed* in accordance with UL 2034 and UL 217.

**R315.2 Where required.** Carbon monoxide alarms shall be provided in accordance with Sections R315.2.1 and R315.2.2.

**R315.2.1 New construction.** For new construction, carbon monoxide alarms shall be provided in dwelling units where either or both of the following conditions exist:

1. The dwelling unit contains a fuel-fired appliance or fireplace.
2. The dwelling unit has an attached garage with an opening that communicates with the dwelling unit.

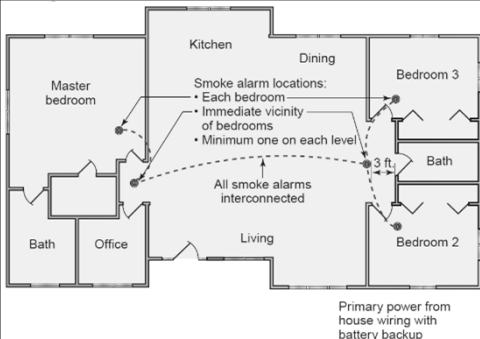
**R315.2.2 Alterations, repairs and additions.** Where alterations, repairs or additions requiring a building permit occur, or where one or more sleeping rooms are added or created in existing dwellings, or where fuel-fired appliances or fireplaces are added or replaced, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.

**Exceptions:**

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, or the installation of a fuel-fired appliance that cannot introduce carbon monoxide to the interior of the dwelling, is exempt from the requirements of this section.
2. Deleted.

**New!**

## Location and Power source R315.3, R315.4



**R315.3 Location.** Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

**R315.4 Combination alarms.** Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.


**R315.5 Power source.** Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

**Exceptions:**

1. Carbon monoxide alarms shall be permitted to be battery operated where installed in buildings without commercial power.
2. Carbon monoxide alarms installed in accordance with Section R315.2.2 shall be permitted to be battery powered.

**New!**

## CO Detectors R315.6



**CARBON MONOXIDE ALARM**

**R315.6 Carbon monoxide detection systems.** Carbon monoxide detection systems shall be permitted to be used in lieu of carbon monoxide alarms and shall comply with Sections R315.6.1 through R315.6.4.

**R315.6.1 General.** Household carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be *listed* in accordance with UL 2075.


**R315.6.2 Location.** Carbon monoxide detectors shall be installed in the locations specified in Section R315.3. These locations supersede the locations specified in NFPA 720.

**R315.6.3 Permanent fixture.** Where a household carbon monoxide detection system is installed, it shall become a permanent fixture of the occupancy and owned by the homeowner.

**R315.6.4 Combination detectors.** Combination carbon monoxide and smoke detectors shall be permitted to be installed in carbon monoxide detection systems in lieu of carbon monoxide detectors, provided that they are *listed* in accordance with UL 2075 and UL 268.

**New!**

## Site Address R319.1



**SECTION R319  
SITE ADDRESS**

**R319.1 Address identification.** Buildings shall be provided with *approved* address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be not less than 4 inches (102 mm) in height with a stroke width of not less than 0.5 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional *approved* locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

**New!**

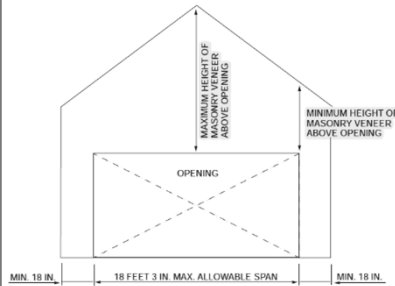
## Maximum height above lintel

R703.8.3.2

**TABLE R703.8.3.2**  
HEIGHT OF MASONRY VENEER ABOVE OPENING

MINIMUM HEIGHT OF MASONRY VENEER ABOVE OPENING (INCH)	MAXIMUM HEIGHT OF MASONRY VENEER ABOVE OPENING (FEET)
13	< 5
24	5 to < 12
60	12 to height above support allowed by Section R703.8

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

**New!**

## Lintel Spans

R703.8.3.1

**TABLE R703.8.3.1**  
ALLOWABLE SPANS FOR LINTELS SUPPORTING MASONRY VENEER<sup>a, b, c, d, e</sup>

SIZE OF STEEL ANGLE <sup>a, c, d</sup> (inches)	NO STORY ABOVE	ONE STORY ABOVE	TWO STORIES ABOVE	NO. OF 1/2-INCH OR EQUIVALENT REINFORCING BARS IN REINFORCED LINTEL <sup>b, 4</sup>
3 x 3 x 1/4	6'-0"	4'-6"	3'-0"	1
4 x 3 x 1/4	8'-0"	6'-0"	4'-6"	1
5 x 3 1/2 x 5/16	10'-0"	8'-0"	6'-0"	2
6 x 3 1/2 x 5/16	14'-0"	9'-6"	7'-0"	2
2-6 x 3 1/2 x 5/16	20'-0"	12'-0"	9'-6"	4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Long leg of the angle shall be placed in a vertical position.

b. Depth of reinforced lintels shall be not less than 8 inches and all cells of hollow masonry lintels shall be grouted solid. Reinforcing bars shall extend not less than 8 inches into the support.

c. Steel members indicated are adequate typical examples; other steel members meeting structural design requirements shall be permitted to be used.

d. Either steel angle or reinforced lintel shall span opening.

e. Spans over 4 feet (1219 mm) shall be shored up until cured.

**New!**

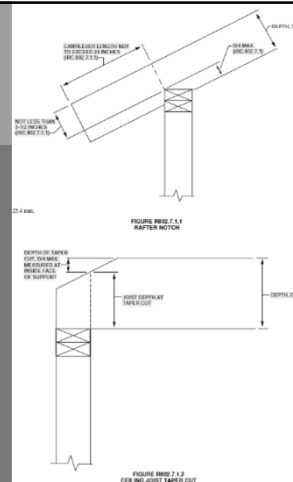
## Sawn lumber

R802.7.1

**R802.7.1 Sawn lumber.** Cuts, notches and holes in solid lumber joists, rafters, blocking and beams shall comply with the provisions of Section R502.8.1 except that cantilevered portions of rafters shall be permitted in accordance with Section R802.7.1.1.

**R802.7.1.1 Cantilevered portions of rafters.** Notches on cantilevered portions of rafters are permitted provided the dimension of the remaining portion of the rafter is not less than 3 1/2 inches (89 mm) and the length of the cantilever does not exceed 24 inches (610 mm) in accordance with Figure R802.7.1.1.

**R802.7.1.2 Ceiling joist taper cut.** Taper cuts at the ends of the ceiling joist shall not exceed one-fourth the depth of the member in accordance with Figure R802.7.1.2.



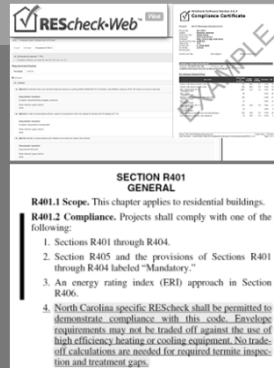
## Energy

NCRC 2018



## Significant changes on the energy code.

- REScheck was permitted in the code, but it's no longer available on DOE's website to be used with the NCECC.
- RESchecks complying with the 2015 IECC, will be accepted as an alternate.
- There are five new methods available for energy compliance.



## New Compliance Alternatives available in the 2018 NCRC / NCECC.

### Prescriptive :

1. R-Value Computation
2. U-Value Alternative
3. Total UA Alternative

### Simulated Performance

### Energy Rating Index

## Prescriptive Method:

- Table R402.1.2 is the most common and simplest method.
- It doesn't work on some applications.

**TABLE R402.1.2**  
**INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT\***

CLIMATE ZONE	FENESTRATION OPERATION	REFLECTIVE OPERATION	GLAZED FENESTRATION U-FACTOR	CEILING U-FACTOR	WALL U-FACTOR	FLOOR U-FACTOR	FOUNDATION U-FACTOR	CLAY SPACE U-FACTOR	CEILING SPACE U-FACTOR
1	0.35	0.35	0.30	0.08	0.08	0.08	0.08	0.08	0.08
2	0.35	0.35	0.30	0.08	0.08	0.08	0.08	0.08	0.08
3	0.35	0.35	0.30	0.08	0.08	0.08	0.08	0.08	0.08
4	0.35	0.35	0.30	0.08	0.08	0.08	0.08	0.08	0.08
5	0.35	0.35	0.30	0.08	0.08	0.08	0.08	0.08	0.08

\* For SI: 1 inch = 25.4 mm.

a. R-values are maximum. U-factors are minimum. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.

b. The fenestration U-factor values include air leakage. The U-factor values apply to all glazed fenestration.

c. "Low-E" means R-10 continuous insulation installed on the interior or exterior of the frame or R-10 continuous insulation at the exterior of the basement wall or at the exterior of the foundation wall.

d. The foundation U-factor values are based on the exterior of the foundation wall. The U-factor values are based on the exterior of the foundation wall.

e. The foundation U-factor values are based on the exterior of the foundation wall. The U-factor values are based on the exterior of the foundation wall.

f. The foundation U-factor values are based on the exterior of the foundation wall. The U-factor values are based on the exterior of the foundation wall.

g. On foundation walls, insulation is not required in warm humid locations as defined by Figures R401.1 and Table R401.1.

h. On foundation walls, insulation is not required in cold dry locations as defined by Figures R401.1 and Table R401.1.

i. The second R-value applies where more than half the insulation is on the interior of the frame wall.

j. In addition to the requirements in Section R402.1.2, a minimum of one general horizontal exterior wall assembly having a U-factor no greater than 0.05 shall be installed in the exterior wall assembly.

k. In addition to the requirements in Section R402.1.2, a minimum of one general horizontal exterior wall assembly having a U-factor no greater than 0.05 shall be installed in the exterior wall assembly.

l. R-10 shall be provided in exterior wall assembly insulation when the full height of continuous R-10 insulation extends over the wall and up into the ceiling. Otherwise, R-10 insulation is required where exterior doors or windows meet exterior walls. The insulation shall extend at least 6 inches at the exterior door frame.

m. R-10 shall be provided in exterior wall assembly insulation when the full height of continuous R-10 insulation extends over the wall and up into the ceiling. Otherwise, R-10 insulation is required where exterior doors or windows meet exterior walls. The insulation shall extend at least 6 inches at the exterior door frame.

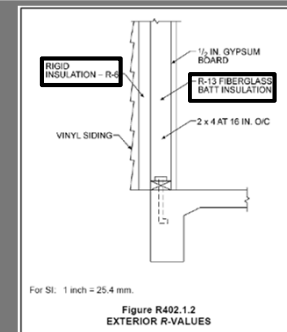
n. R-10 shall be provided in exterior wall assembly insulation when the full height of continuous R-10 insulation extends over the wall and up into the ceiling. Otherwise, R-10 insulation is required where exterior doors or windows meet exterior walls. The insulation shall extend at least 6 inches at the exterior door frame.

o. Foundation wall meeting the exterior doors and windows shall meet the requirements. See also the door and R-values in the exterior requirements.

2018 NORTH CAROLINA ENERGY CONSERVATION CODE

## Method 1: R-Value Computation

- R402.1.3 - Where there is more than one layer of insulation, the R-values for the all the layers can be summed.
- Examples:
- 13 Batt+ 6 CI = 19









## Master Plan Submittal: Standard Operating Procedure (SOP)

- Because we cannot approve batch samples, we recommend submitting Master Plans with the prescriptive method.
- If any other method is to be used, the required documentation must be submitted at the time of the permit application. **This should be noted on the “remarks” section of the application (per individual building).**

### Mecklenburg County Code Enforcement

This master plan complies with the prescriptive energy requirements of the NCRC 2018. The permit applicant may submit an alternative compliance method at the time of permit submittal for each building. The new proposed method shall be indicated on the permit application.

## Story-Attic

NCRC 2018

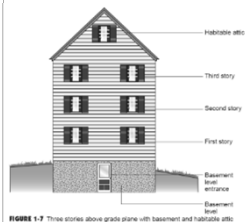
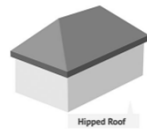


FIGURE 1-7 Three stories above grade plane with basement and habitable attic



Hipped Roof

### Habitable Attic per IRC

- The "habitable attic" was added in the 2009 IRC in an attempt to gain bonus space above the 3d floor while remaining in the IRC.
- No exterior walls allowed other than gable ends.
- No maximum area.



Gable Roof

## Story-Attic per NCRC

- NCRC created a new definition to address habitable attics.
- This new definition allows some exterior walls, with the tradeoff that the space can't be larger than 50% of the story below.

**STORY, ATTIC.** Any story situated wholly or partly in the roof, so designated, arranged or built as to be used for storage or habitation. If an attic that is accessible by a fixed stairway has a 7-foot clear height for greater than 50 percent of the floor area of the story below, then the space shall be considered as a story.



## Story-Attic per NCDOI

- The intent of the definition is to add an attic while conforming to the structural limitations of the building code.
- The intent of defining it as “wholly or partly in the roof” was to allow limited exterior walls such as dormer walls to provide emergency egress.



## Building Consistency Meeting

On 10/1/2014 Recorder and minutes prepared by: Jay E. Gahan/Lisa McSwain

B. Can one build a 3 story home (single, two-family, townhome), plus converted, rooftop deck or other lower access, full engineered design, using the International Code 2012 (Base text) - yes. Clearly, habitable attics are not considered a story.

C. Does the habitable attic floor “count” or “not count” as a floor in regards to the IRC R302.10.3(2) Table which notes maximum two floors and a roof (habitable deck floor would also create this added floor condition)?

→ The habitable attic in itself does not affect how to use Table R302.10.3.2(1) for example, but if you have significant existing exterior wall area at the attic level the table will not be adequate to address lateral forces if the attic is above the 3rd floor.

D. Is a habitable attic to be fully in the roof line, with the exception of a dormer for egress opening, or could one have a full wall accessing a rooftop deck and over-sand space?

→ Concerning an attic as completely within the space between the top story ceiling joists and the full address. The definition appears to indicate that an attic would not have exterior walls other than those required for dormers for required windows.

→ A full wall is OK as long as the floor area is 50% or less than the floor below as stated in the definition for attic story in Section R302.2 and the mean roof height remains within the parameters of the MC or is engineered. Anything over 3-stories must comply with the 2012 IBC/CBC.



## Story-Attic MCCE Interpretation

- In 2014 we expanded NCDOI's interpretation and started allowing up to a full exterior wall with some conditions.



Mecklenburg County Code Enforcement

## Residential Building Code Interpretation

SUBJECT: R302 - Story-Attic definition  
REFERENCE: NCC 2018 - Chapter 2, R305

### CODE DEFINITION:

**STORY-ATTIC.** Any story situated wholly or partly in the roof, so designated, arranged or built as to be used for storage or habitation. If an attic that is convertible for a third story has a 7-foot clear height for greater than 50 percent of the floor area of the story below, then the space shall be considered a story.

### INTERPRETATION:

The intent of the Story-Attic definition is to allow the use of attic space, while upholding to the residential code's structural limitations of buildings to three stories. Per MCCE's interpretation:

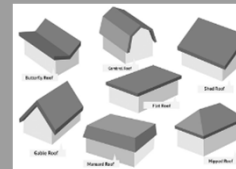
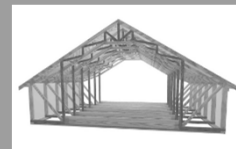
1. The Story-Attic will be limited in size to 50% of the floor area below. The attic area shall be measured to the 7ft. ceiling line.
2. Only attics enclosed by gable or hip roof meet the code's intent. Other roof profiles will be considered stories.
3. The occupiable area of the story-attic shall be centrally loaded in the span of the joist below.
4. Dormers, window walls and mechanical walls are allowed, provided they are limited in size to comply with egress opening requirements and/or the required mechanical clearances.
5. Unfinished roof spaces are not considered stories per code. A mini landing is allowed for access but limited to 25sq.
6. Buildings with existing masonry on the same level of the attic can be allowed to have up to one exterior wall, on one side of the building. The following conditions must be met as a minimum:
  - The masonry is confined within the projected roof line.
  - The 50% area limit will be assumed to the 8ft. ceiling line (R305).
  - No dormers or walls will be allowed on the other three sides of the building.
  - Plans will include a structural diagram, showing compliance with all applicable laws above. (see example below).

APPROVED BY:

*Just Vernon*  
Building Code Administrator, MCP, CEO  
Date: 3/20/2010

## Story-Attic MCCE Interpretation

- Due to a recent high-volume of questions from customers about this topic, we've issued an official interpretation of this issue in November 2018.



1. The Story-Attic will be limited in size to 50% of the floor area below. The attic area shall be measured to the 7ft. ceiling line.

2. Only attics enclosed by gable or hip roofs meet the code's intent. Other roof profiles will be considered stories.

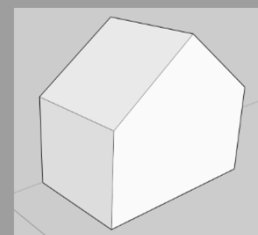
3. The occupiable area of the story-attic shall be centrally loaded in the span of the joist below.



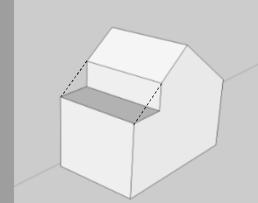
4. Dormers, window wells and mechanical wells are allowed, provided they are limited in size to comply with egress opening requirements and/or the required mechanical clearances.



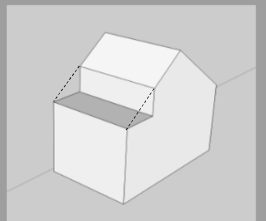
5. Unenclosed roof terraces are not considered stories per code. A stair landing is allowed for access but limited to 25sf.



6. Buildings with rooftop terraces on the same level of the attic can be allowed to have up to one exterior wall, on one side of the building.

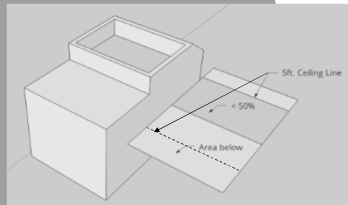


The following conditions must be met as a tradeoff:



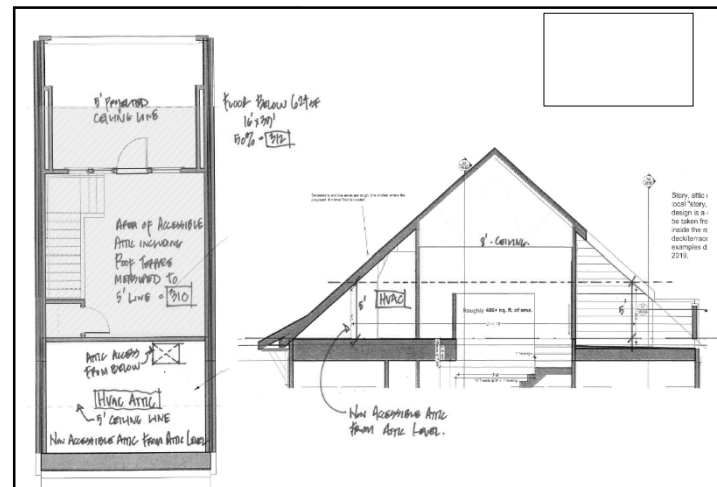
1. The terrace is confined within the projected roof line.

2. The 50% area limit will be measured to the 5ft. ceiling line (R305).



3. No dormers or wells will be allowed on the other three sides of the building.

4. Plans will include a diagram, showing compliance with all applicable items above.





### Main Differences between NCRC & NCBC?

- 13R Sprinkler system required on living areas. (4 story / Type V Construction).
- 13D Sprinkler system required on living areas. (4 story / Other types of Construction ).
- 2hr Fire Walls required.
- Type B units required.
  - Parallel approach at sinks and bathroom vanities and removable base cabinets.
  - Blocking for future grab bars.
  - Door width
- Increased energy requirements.
- Preliminary meeting recommended



Thank You.

#### **ENERGY** (10-12 am)

CE Credit-Building

Ryan Miller, NCBPA

#### **DECKS** (8-10 am)

CE credit-Building

Paul Coats, AWC

## Next Training: Wed. August 7th

2018 NCEC residential changes including: spray foam insulation, existing buildings and ERI. In depth discussion on ERI, best practices, code enforcement and documentation.

Construction requirements and documentation. Common deck failures, fasteners, hanger hardware, ledger connections, guard rail and guard post attachments, footers, beams, columns, stairways, and pressure treated wood concerns. AWC-DCA.